

GENERAL CIVIL REQUIREMENTS

Structures

Local codes and requirements - Standard Florida Building Code (Wind Speed = 150 Mile per Hour).

Electrical

Final design also will be performed in coordination and communication with Florida Power & Light Company (FPL). Electrical service will be extended from the existing electrical distribution system that currently serves nearby systems. The electrical power needs will be estimated to include motor horsepower (HP), motor operated valves, lighting, and instrumentation controls. Emergency power will be provided by a back-up generators located either at the treatment plants (for reclaimed water projects) or on-site for surface water projects). Each well will have a control panel. All electrical equipment will have nameplates to identify each item with its respective service or function. The nameplates will include the name of the equipment being served and its associated component number.

The following are the electrical standards and codes that will be used to design and construct the proposed facilities:

- National Electrical Code (NEC)
- American National Standards Institute (ANSI)
- National Electrical Manufacturers Association (NEMA)
- Institute of Electrical and Electronic Engineers (IEEE)
- Insulated Cable Engineers Association (ICEA)
- Occupational Safety and Health Administration (OSHA)
- American Society for Testing Material (ASTM)
- Underwriters' Laboratories, Inc. (UL)
- Local codes and standards

TECHNICAL SPECIFICATIONS

Division 1 – General Requirements

01025	MEASUREMENT AND PAYMENT
01040	CONSTRUCTION COORDINATION
01065	PERMITS AND FEES
01070	GENERAL ABBREVIATIONS
01200	PROJECT MEETINGS
01300	SUBMITTALS
01326	SCHEDULE (CPM)

01370	SCHEDULE OF VALUES
01380	CONSTRUCTION PHOTOGRAPHS
01410	TESTING LABORATORY SERVICES
01500	CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS
01600	MATERIAL AND EQUIPMENT
01667	SYSTEM START UP AND TESTING
01700	CONTRACT CLOSEOUT
01730	OPERATION AND MAINTENANCE MANUALS

Division 2 – Site Work

02210	SAND CEMENT RIP-RAP
02221	EXCAVATING, BACKFILLING AND COMPACTION
02232	LIME ROCK BASE
02270	EROSION AND SEDIMENT CONTROL
02486	FINISH GRADING AND GRASS
02822	CHAIN LINK FENCE AND GATES

Division 3 - Concrete

03100	CONCRETE FORMWORK
03201	CONCRETE REINFORCEMENT
03260	CONCRETE JOINTS AND WATERSTOPS
03300	CONCRETE
03345	CONCRETE FINISHING AND CURING
03800	LEAKAGE TESTING OF HYDRAULIC STRUCTURES

Division 5 - Metals

05050	BOLTS, WASHERS, DRILLED ANCHORS, AND EYEBOLTS
05121	MISCELLANEOUS STRUCTURAL STEEL AND ALUMINUM
05515	LADDERS, STAIRS, AND STAIR NOSINGS
05520	HANDRAILS AND SAFETY CHAINS
05530	GRATING, COVER PLATES, AND ACCESS HATCHES

Division 9 - Finishes

09900	PAINTING AND COATING
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Division 11 - Equipment

- 11210 HORIZONTAL END SUCTION CENTRIFUGAL PUMPS
- 11214 VERTICAL TURBINE PUMPS
- 11215 VERTICAL TURBINE PUMPS-WATER WELLS
- 11240 CO₂ FEED SYSTEM
- 11281 FABRICATED STAINLESS-STEEL SLIDE GATES
- 11375 ULTRAVIOLET DISINFECTION SYSTEM

Division 13 – Special Construction

- 13226 UNDERDRAIN AND COLLECTION SYSTEM

Division 15 – Mechanical

- 15000 PIPING SCHEDULE & GENERAL PIPING REQUIREMENTS
- 15041 DISINFECTION OF PIPING AND STRUCTURES
- 15044 PRESSURE TESTING OF PIPING
- 15056 DUCTILE-IRON PIPE
- 15064 PVC DISTRIBUTION PIPE (AWWA C900)
- 15100 MANUAL, CHECK, AND PROCESS VALVES
- 15108 AIR-RELEASE AND VACUUM-RELIEF VALVES
- 15121 MISCELLANEOUS PIPE FITTINGS AND ACCESSORIES
- 15122 FLEXIBLE PIPE COUPLINGS AND EXPANSION JOINTS
- 15132 PRESSURE GAUGES
- 15142 WALL PIPES, SEEP RINGS, AND PENETRATIONS
- 15155 MAGNETIC FLOWMETER
- 15190 EQUIPMENT, PIPING, DUCT & VALVE IDENTIFICATION

Division 16 - Electrical

- 16015 ELECTRICAL REFERENCE SYMBOLS
- 16020 WORK INCLUDED
- 16025 CODES, FEES, & STANDARDS
- 16035 ACCEPTANCE TESTING
- 16040 IDENTIFICATION
- 16050 SPECIAL REQUIREMENTS
- 16110 RACEWAYS AND CONDUITS

16120	WIRES AND CABLES
16130	OUTLET BOXES
16134	PANEL BOARDS
16140	WIRING DEVICES
16150	ELECTRIC MOTORS
16160	MOTOR CONTROLS
16170	DISCONNECTS
16180	OVERCURRENT PROTECTIVE DEVICES
16190	SUPPORTING DEVICES
16410	ELECTRIC SERVICE
16450	GROUNDING
16460	TRANSFORMERS
16501	LIGHTING FIXTURES
16709	SURGE SUPPRESSION EQUIPMENT
16850	INSTRUMENTATION, CONTROL AND TELEMETRY SYSTEM
16910	CONTROL PANELS

Reference:

1. Pumping station Design Robert Sanks, Second Edition, 1998.
2. Wastewater Technology Fact Sheet Ultraviolet Disinfection, EPA September 1999.
3. Water Ten State Standards